



# **Research Data Alliance Reports from WG Breakout Groups**

**Washington Meeting**  
**3<sup>rd</sup> October 2012**

# Plan



- 8 Groups, 9 Case Statements
- 10 minutes per group (5+5)
- Try for 6 before the break

# The Breakout Groups: WG statements follow in order

- PID Information Types
- Universal Product Code
- Data Type Registries
- Metadata
- Linking Data and pubs: citations
- Terminology Harmonization; Semantics

## Break

- Practical Policy
- Legal
- Urban Scientist
- Engaging with Scientists

# Harmonization and Use of PID Information Types - Charter and Membership

Focus:

In complex data domains unique and persistent identifiers (PIDs) augmented with specific information are the core of proper data management and access. They can be used to give every data object (including collection objects) an identity that enables referring to the data resources and metadata and, additionally, to prove integrity, authenticity and other attributes. But this requires a PID to be uniquely associated with specific types of information, and those types and their association with PIDs must be well managed. Therefore it is wise to specify a framework for information types, to start agreeing on some essential types and to define a process by which other types can be integrated.

Final deliverables / outcomes:

- Recommended set of initial core data types
- requirements and data model for data type profile registry
- API specification
- Final Report on WG outcomes

Initial membership and leadership:

Michael Lautenschlager, Larry Lannom, Sebastian Denvil, Daan Broeder, Frank Schlünzen, Tim DiLauro, Stefan Heinzl, Rob Baxter, Ulrich Schwardtmann, Ruth Duerr, Peter Wittenburg, JP Navarro, Greg Peterson, Philippe Journeau

# Harmonization of PID Information Types

## - Value Proposition

Who will benefit:

- data centers: attributes help in proper data management, executing policy rules, producing a better product, reduction in support effort, etc.
- data infrastructure: commonalities within infrastructures/federations, ease of building new services, etc.
- data consumer: attributes help in disambiguation, trust building, reduces need for support (citation info etc.), enabling automatic processing
- data providers: enhance visibility & reusability, enabling automatic processing,
- tool builders: benefit from controlled, explicit vocabulary

Impact:

see above

# Harmonization of PID Information Types

## - Action Plan

Adoption / Implementation Actions for deliverables / outcomes:

- DKRZ will implement the registry and realize the API
- Publish Article, create dissemination flyer
- interact with various centers, infrastructures and communities

# Harmonization of PID Information Types - Workplan

## Work to be done

- To determine in more detail the role of PID and associated information types in the data management architecture(s)
- To formulate requirements for the type of information associated
- To agree on a first list of information types and define and register them
- To specify and realize a name space that allows us to openly define and register information types which is compliant to ISO standards such as 12620
- Discuss the desirability of a types profile mechanism that would make certain information types mandatory and group them in a profile to be shared with other communities.
- To define an API that allows requesting information associated with PIDs
- Use Case driven
- Review with our respective organizations

## Operations / organizational approach

WG will meet virtually every month, 2 chairs (Michael Lautenschlager, Tim DiLauro) , f2f meeting in Gothenburg, discuss sustainability

## Intermediate milestones / deliverables

- report on review
- Candidate Recommended set of initial core data types (6 M)
- Candidate requirements and data model for data type profile registry (12 M)
- Candidate API specification (12 M)

## Broader community engagement

**Research Data Alliance**

*Global Data Meeting, October 2012*

DataCite, IETF BoF people, ESFRI Research Infrastructures, XSEDE, EUDAT data infrastructure, Max-Planck-Society, DataNet Projects

# <UPC Code for Data> Charter and Membership

## Focus: Universal Inventory Control

Need the capability of data users/re-users to be able to identify content coming into a project without having made original rules of data identifiers. Value is in just having the UPC code to use in whatever workflow or framework that the users is taking the data to. How do you create an infrastructure for data UPC's? How can that infrastructure be used to identify data?

What is fixed and mandatory and controlled – What is optional – Who is issuing authority?

## Final deliverables / outcomes:

- 1.) Basic Requirements for UPC Code to represent data
- 2.) Based on use cases and a reference model implementation

## Initial membership and leadership:

James Myers – Margaret Hedstrom – Ian Foster – Robert McDonald –  
Christopher Paolini – Donald Pagen – Fran Berman



# <UPC Code for Data> Value Proposition

## Who will benefit:

Scientists Discover “Class”– general category of Data

Data Managers – Administrative Mgmt of Data/Funding Agencies

Data Recall - (instrument, calibration error)

Supply Chain for Research Data

Identification of Data – Source (instrument) – Local Community – Required and Optional Spaces

Repository Certification via UPC Code Minting?

Policy Enforcement (iRODS) within UPC Code?

Can field of UPC be signed by cert authority? Validation for Authenticity?

## Impact:

Tool for discovery of data by scientists/funding agencies/others

## <UPC Code for Data> Action Plan

### **Adoption / Implementation Actions for deliverables / outcomes:**

Instrument as Use Case: UPC Code is attached to an astronomy instrument and all data can be correlated back to the original instrument based on this identifier.

Software as Use Case: Virtualized use of UPC Code based on creation within a specific virtual environment.

# <UPC Code for Data> Work Plan

## **Operations / organizational approach**

Interoperability with other richer registries for PIDs, Metadata

## **Intermediate milestones / deliverables**

Feasibility for Criteria and Reference Implementation

Technical Evaluation of Possibilities (RFC)

## **Broader community engagement**

Commercial Involvement

Research Admin Involvement

Scientific Involvement

Funding Agency Involvement

ISO Standards Adoption (post reference implementation)

# Data Type Registries - Charter and Membership

## Focus:

All data is typed, explicitly or implicitly. Processing requires knowledge of types. This knowledge is generally built into software but across domains and across time more precision in associating data with the information needed to process it may be required. Related to this is the issue of discovering services that can be used to process data of a given type. We believe that a registry of data types, describing types for both humans and machines as well as pointing to related services, will assist in sharing and processing data.

## Final deliverables / outcomes:

- Data model and expression/serialisation for types
- Functional spec for a type registry
- Prototype functional registry

## Initial membership and leadership:

Larry Lannom, Michael Lautenschlager, Daan Broeder, Frank Schlünzen, Tim DiLauro, Rob Baxter, Ulrich Schwardmann, Ruth Duerr, JP Navarro, Greg Peterson, Philippe Journeau

# Data Type Registries - Value Proposition

## Who will benefit:

- Service providers: enhance automatic processing of data
- Data providers: enhance visibility & reusability, enabling automatic processing
- Tool builders: benefit from controlled, explicit vocabulary data centers: attributes help in proper data management, executing policy rules, producing a better product, reduction in support effort, etc.
- Data consumer: reduces need for support, enables automatic processing
- Data archives: provides representation information for preservation and curation services
- Data infrastructures: commonalities within infrastructures/federations, ease of building new services, etc.

## Impact:

See above

# Data Type Registries - Action Plan

Adoption / Implementation Actions for deliverables / outcomes:

- Open up prototype registry for experimental registration processes & policies
- Publish Article, create dissemination flyer
- Interact with various centers, infrastructures and communities

# Data Type Registries - Workplan

## Work to be done

- Compile a set of use cases for data type use and management
- Formulate a data model and expression for types
- Design a functional specification for type registries
- Propose a federation strategy among multiple type registries at both the technical and organizational levels

## Operations / organizational approach

WG will meet virtually every month, 2 chairs (Larry Lannom, Daan Broeder) , f2f meeting in Gothenburg, discuss sustainability

## Intermediate milestones / deliverables

- Report on review of related efforts (6 M) => go/no go
- Initial set of use cases (6 M)
- Candidate requirements and data model for data type registry (6 M)
- Candidate API specification (6 M)

## Broader community engagement

- IDF, UDFR, PRONOM

# Metadata Working Group Charter and Membership

## Focus:

Increase utilization of appropriate metadata

## Final deliverables / outcomes:

- Directory of metadata standards provided by a wiki
- Longer term goal of creating consensus on a minimum set of metadata for scientific data for university research data archives

## Initial membership and leadership:

Membership: DataONE, NEON, Dublin Core, JISC, NICS, [DataCite]

Leadership: Jane Greenberg, Rebecca Koskela

Simon Hodson, Bill Michener, Peter Linstrom, Ryan Braby, Larry Biehl, George Alter, Brian Cremeans, Nancy Wiegand, Brian Wee, Talapady Bhat, Steven Morales



# Metadata Working Group Value Proposition

## Who will benefit:

- Researchers
- Data managers and data scientists
- Software tool developers
- Repositories
- Administrative agencies
- Professional societies

## Impact:

- Facilitate finding the appropriate standards for data you have created
- Reduce the proliferation of new and adhoc metadata formats
- Resource for those doing research on standards
- Encourage tool developers to provide new tools or modify existing tools

# Metadata Working Group Action Plan

Adoption/Implementation Actions for deliverables/  
outcomes:

- Environmental scan of existing efforts
- Initial design of the wiki that includes survey of standards for initial content
- Implementation & testing of wiki (may be iterative)
- Release of wiki
- Promotion of wiki to encourage others to add to community wiki

# Metadata Working Group Work Plan

## Operations/organizational approach

- Leverage DataONE infrastructure
- Active participation by planning group
- Make use of existing efforts (A. Ball, J. Qin, etc)
- Create a resource that can be updated and is sustainable

## Intermediate milestones/deliverables

- Environmental scan – 4 months
- Wiki design – six months
- Beta version of wiki – nine months
- Go live and promote wiki – 11-12 months
- Evaluation & recommendations for next steps – 15-18 months

## Broader community engagement

Engage Dublin Core Science & Metadata community

# “Pub/Data Citation/Linking” Charter and Membership

**Focus:** Connections between scholarly publications and associated data

**Final deliverables / outcomes:** Recommendation for methods and mechanisms for data citations and links to publications

**Initial membership and leadership:**

Abhirup Chakraborty (U. Indiana – USA)

James French (Cooperation for National Research Initiatives – USA)

Francoise Genova (CNRS – France)

Yannis Ioannidis (U. Athens & “Athena” Research Center – Greece)

Andrew Treloar (Australian National Data Service – Australia)

Maryam Rahnemoonfar (Indiana U. – USA)

Nancy Wiegand (U. Wisconsin-Madison – USA)

Philippe Journeau (Discinnet Labs – France)

# “Pub/Data Citation/Linking” Value Proposition

## Who will benefit:

Data centers that are already (aiming at) establishing such connections and linking

Cited and citing researchers (especially those w/o such opportunities)

Publishers (waiting for something to emerge)

## Impact:

Enhanced exposition & discoverability & reusability of data

World peace

# “Pub/Data Citation/Linking” Action Plan

Adoption / Implementation Actions for deliverables / outcomes:

Sticks (funders: no funding, publishers: no pub) and Carrots (funders: more funding, academia: promotion criteria)

Advocacy activities towards publishers, data centers, RDA researchers/disciplines

Reaching out through WDS, OpenAIRE, scholarly societies, ...

# “Pub/Data Citation/Linking” Work Plan

## Operations / organizational approach:

Wiki, google doc, monthly telcons

## Intermediate milestones / deliverables:

Final deliverable directly on March 17, 2013

## Broader community engagement:

Interaction with relevant CODATA task force

Open invitation to YOU and the world

# Terminology & Semantic Interoperability

## 1 Charter and Membership

### Focus:

1. identify a cross-community harmonized vocabulary of key terms of the field of research data (science/management)
2. identify best practices in multi-/cross-domain & vertical/horizontal Semantic Interoperability (different methods such as ontology matching, thesaurus mapping, etc.) and derive guidelines

### Final deliverables / outcomes:

1. a harmonized vocabulary of key terms and (operational) definitions in the field of research data (candidate list there)
2. concrete guidance to data practitioners/data scientists on (multi-/ cross-domain) Semantic Interoperability

**Initial membership and leadership:** Baker, Berg-Cross, Bhat, Budin (moderator), Duerr, Gomez-Perez, McGuinness, Stotzka, Wiegand, Wittenburg (10);

(other experts to be invited from the RDA community and beyond)



# Terminology & Semantic Interoperability

## Value Proposition

### **Who will benefit & what is the expected Impact:**

1. All RDA WGs and data science communities in their specific work will benefit by facilitating cross-community and cross-domain understanding of terms and their meaning
2. prevent RDA participants from talking past each other when discussing use cases, work plans, etc.
3. identify a cross-community and highly re-used and rule-based harmonized vocabulary of key terms (and their relationships) of the field of research data (science/management) to be used for cross-discipline use cases
4. Improve synchronization of vocabulary for better intersection or integration across application environments and use cases
5. Improve data discovery, data sharing, and policy declaration on interoperability frameworks by focusing on the semantic dimension
6. Improve data life cycle management by clarifying the terminology at each life cycle stage in concrete use cases

# Terminology & Semantic Interoperability Action Plan

## Adoption/Implementation Actions for deliverables / outcomes:

- **Collaboration:** The WG members are embedded in major target communities (domain data science, e.g. biology, multi-domain research infrastructure consortia, major data centre practitioners, international organizations (e.g. standards), and other RDA stakeholders and WGs) and will interact with their constituencies to make sure early testing, adaptation and adoption of results
- **Proof of Concept:** Reference implementations in the communities represented in the WG and others beyond (based on best practices selected, on shared interest in common core terminology) will serve as proof of concept for other communities to buy into it
- **Bridging Services:** Semantic Interoperability to serve as a bridging activity across generic terminologies from different disciplines; including different levels of integration (semantic intersection, alignment, merging and full integration), independent of software and formats

# Terminology & Semantic Interoperability Work Plan

## Operations / organizational approach

1. The WG will work in two sub-groups, but there are close ties between them
2. The 2 tracks will have 2 stages: (a) comparative & analytic to describe best practices in core terminology and semantic interoperability; (b) harmonization phase on core terminology and recommendations of semantic interoperability

## Intermediate milestones / deliverables

- 1<sup>st</sup> milestone at M 6 (Gothenburg summit): Version 1 of core vocabulary
- 2<sup>nd</sup> milestone at M 12: Version 2 of vocabulary; Version 1 best practice assessment report on semantic interoperability management use cases
- 3<sup>rd</sup> milestone at M 18: Version 3 of voc.; guidelines on Semantic Interoperability

## Broader community engagement

use our own communities to reach out to others; names of experts to link up; Core vocabulary to be published as a whole, URIs of each entry, on web site

# Initial Candidate Term List

- Accessibility
- Data archive
- Data collection
- Data entity
- Data object
- Data life cycle
- Data science
- Data set
- Data space
- Digital library
- Infrastructure
- Interoperability (+ sub-types)
- Metadata
- Policy
- PID
- Preservation – different kinds
- Provenance
- Registry – types
- Research Infrastructure
- Repository
- User vs. audience

# <Practical Policy> Charter and Membership

## Focus:

Practical Policy - implementations of policy-based interoperability

## Final deliverables / outcomes:

Demonstration of science use cases

Development of policy sets for data centers

## Initial membership and leadership:

- |                    |                                       |
|--------------------|---------------------------------------|
| – Reagan Moore     | University of North Carolina          |
| – Rainer Stotzka   | Karlsruhe Institute of Technology     |
| – Peter Wittenburg | Psycholinguistics (MPI)               |
| – Amit Chourasia   | San Diego Supercomputer Center        |
| – Tim Cockerill    | University of Illinois                |
| – Fabian Cremer    | Goettingen State & University Library |
| – Mark Hedges      | King's College London                 |
| – Chris Jordan     | Texas Advanced Computing Center       |
| – Herman Stehouwer | Psycholinguistics (MPI)               |
| – Colin Wright     | CSI Meraka Institute, South Africa    |

# Approach

- A policy is an assertion that is enforced about a collection
- Focus on practical implementation
- Develop recommendations for policies
- Define and implement a minimum set of policies for use cases
  - Data Centers - Preservation / Curation
  - Science – Data publication
- Build starter kit for policies
  - Evolution of policies / policy life cycle
- Implement and demonstrate in March 2013
- Define barriers to policy implementation

# Science and Data Center Use Cases

- Kepler workflow provenance archiving (XSEDE)
- Earth observation data set publication
- Data Life Cycle Policies for High Throughput Microscopy
  - Creation of scientific collections of Zebra fish development
- Language use case - Discovery and harvesting example
  - Find data sets with Transcription with morphological segmentation
- Data access and exchange policies – time dependent access control
- Digital art object management policy – policy for specifying context
- Policy set for bit preservation
  - Archive management policies – ISO 16363
  - Integrity, authenticity, chain of custody, original arrangement

# <Practical Policy> Value Proposition

## Who will benefit:

Data centers will build upon starter kits for policies

Researchers will automate research analyses

## Impact:

Data center administration

New services for data management allowing data exchange

Reproducible science

Collaborative research



# <Practical Policy> Action Plan

## Use existing technology

Data grids, data management systems

## Extend group to include broader communities

EarthCube / DataNet / Clarin / Darjah

Helmholtz association / Digital Art / Tate Art Gallery

## Implement example policies

Publish policies in a document for use by others

## Demonstration

March meeting in Gothenburg

# <Practical Policy> Work Plan

Operations / organizational approach

MediaWiki / Mailing list [rda-wg-policy@lists.kit.edu](mailto:rda-wg-policy@lists.kit.edu)

Monthly teleconference

Intermediate milestones / deliverables

Oct 2012 – Data integrity verification policy (example production policy)

March 2013 - Meet at Gothamburg, Present data management requirements from data centers, Define structure for document on policies

June 2013 – Policy document

Aug 2013 – Starter kit of policies for selected domains

Broader community engagement - Disseminate results to:

Digital Humanities 2013 / XSEDE July 2013 / LSDMA Community Forum & International Symposium 2013/ Berlin distributed processing 2014 / PDP 2014 / PRACE / IN2P3 / iRODS User Group Meeting / EarthCube / New Zealand BestGrid / NOAA / NASA / DataNet

# Legal Interoperability WG Charter and Membership

**Focus:** Overcoming Intellectual Property Constraints on Access and Reuse of Research Data

**Final deliverables / outcomes:**

- 1) Identification and analysis of state-of-the-art waivers and common-use licenses for enabling legal interoperability for sharing and reuse of research data.
- 2) Documenting various examples of legal interoperability solutions, including compiling relevant statistics, in interdisciplinary and international contexts.
- 3) Promoting greater understanding of the details of legal interoperability of data among different stakeholders in the research process through online core principles, guidelines, and related information resources.

**Initial membership and leadership:** Co-chairs: Paul F. Uhler, NAS, US and Enrique Alonso Garcia, ES. Legal and science policy participants from: OpenAIRE, iCORDI, EUDAT, CReATIVE-B, DataONE, Creative Commons, OKF, JISC, COAR, DCC, GEO, CODATA, GSDD, LightWatch ERIC, CLARIN, ANDS (others).

# Legal Interoperability WG

## Value Proposition

**Who will benefit:** Data providers and data center managers, data users, research funders and policymakers, university administrators, industry R&D managers, lawyers in research and digital intellectual property activities, and all society generally.

**Impact:** Improve legal certainty for data interoperability activities, especially in the interdisciplinary and international contexts. Clarify for scientists the positive and negative effects of IPRs in data access and reuse, including long-term economic sustainability. Promote reuse of data and reduce duplicative research. Minimize unnecessary legal barriers, especially for public and publicly funded upstream factual inputs. Generally help educate different stakeholders in the research process.

# Legal Interoperability WG - Action Plan

## **Adoption / implementation actions for deliverables / outcomes:**

Work with the organizations represented on the working group to identify focal points for implementing the results.

Develop a 1-pager that would be sent to specific stakeholder groups and organizations identified above to stimulate greater adoption of the solutions, guidelines, and related information produced by the working group.

Encourage members to give presentations and handouts at large meetings of different stakeholders.

# Legal Interoperability WG - Work Plan

**Operations / organizational approach:** Form broad WG, including members from major research data licensing activities, to develop website and related info; use website interactively to solicit examples; hold int'l workshop at NAS; coordinate with iCORDI/DataONE and CReATIVE-B work plans.

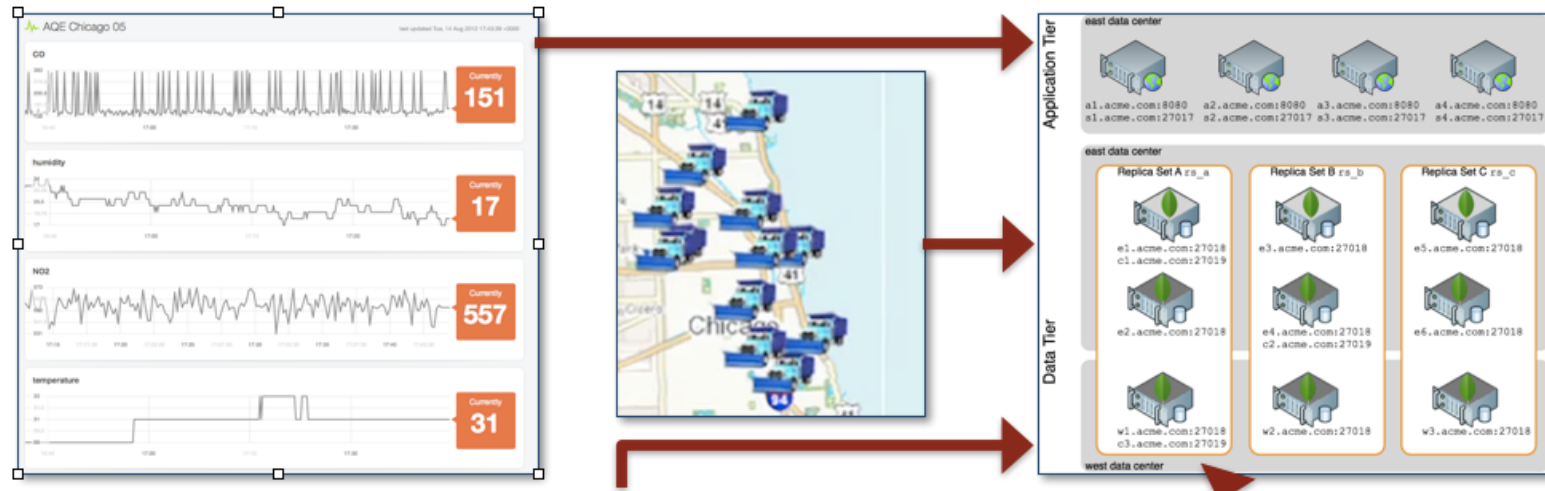
**Intermediate milestones / deliverables:** Begin March 2013 – hold monthly calls - create interactive website by summer 2013 – hold NAS workshop in fall 2013 – hold iCORDI second workshop in early spring 2014 - complete final deliverables in summer 2014 – actively disseminate results in fall 2014.

**Broader community engagement:** Identify broad WG representation, especially with data licensing groups (Creative Commons, OKF); create interactive website; hold open meetings; develop a vigorous dissemination and outreach plan.

# Defining Urban Data Exchange for Science - DUDES

- Focus
  - Identify and develop standard data representation schemas for a core set of data sets necessary for urban situational awareness and decision-making.
- Final deliverables / outcomes:
  - A core set of representation schemas to enable reusable analysis/situational awareness software and algorithms and exchange of data with support for readily anonymizing data.
- Initial membership and leadership:
  - Charlie Catlett (UChicago/Argonne), Theresa Pardo (SUNY-Albany), Walter Stewart (Research Data Canada), Paul Muzio (City University of New York), Chaitanya Baru (UCSD), Maryam Rahnemoonfar (Indiana University) Abhijit Chandra (Iowa State)

# CONTEXT

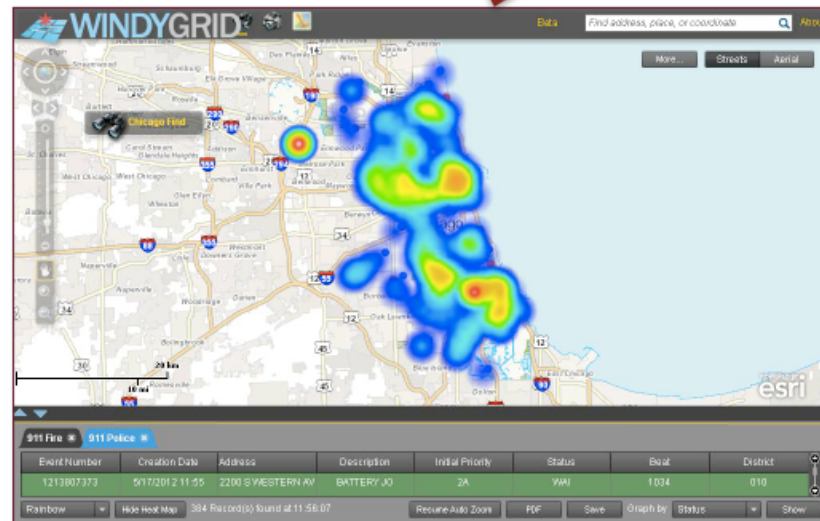


## Every 30 seconds

- 311 Service Requests
- 911 Police Service Calls
- 911 Fire Service Calls
- City Mobile Assets
- CTA Buses
- Public Safety Mobile Assets
- Tweets
- Weather

## Daily

- Building Permits
- Building Violations
- Business Licenses
- Facilities
- Right-of-Way Permits





# DUDES: Value Proposition

- Who will benefit:
  - Scientists and NGOs doing research and policy in urban areas, including social, economic, behavioral, engineering, and other disciplines.
  - City, and metropolitan governments
- Impact:
  - Facilitates discussion among scientists, NGOs, and city information management experts about
    - What data is necessary for various urban decisions (both tactical and strategic)
    - What algorithms are effective for various urban decisions
  - Facilitates sharing of decision-support and situational awareness algorithms and software between cities.
  - Facilitates data sharing among cities and between cities and the science community by making anonymization capabilities a “built-in” factor in the data representation schemas.

# DUDES: Action Plan

- Adoption / Implementation Actions for deliverables / outcomes:
  - Involve city information system experts from several major cities in Europe, Australia, and the US at each stage of identifying core data sets and developing common representation schemas.
    - Leverage other efforts such as [cities.data.gov](http://cities.data.gov) in the US; [cityprotocol.org](http://cityprotocol.org) internationally.
  - Demonstration of interoperability by importing data from multiple cities into situational awareness systems in one or more cities.
    - Example, UChicago is building a research testbed version of the City of Chicago's system that can be used for validation.

# DUDES: Work Plan

- Operations / organizational approach
  - Recruit additional researchers through various networks including cityprotocol etc.
  - Use of an RDA established electronic work space
  - F-T-F meetings at appropriate events
- Intermediate milestones / deliverables
  - Survey operational and planned decision-support systems in 4-6 major cities and metropolitan areas to identify core data sets common across such systems. (March 2013)
  - Select 4-6 core data sets.(June 2013) Develop common representation schemas. (January 2014)
  - Demonstrate interoperation of core data sets with at least one city decision-support system. (April 2014)
- Broader community engagement
  - Identify and recruit collaborators from NSF urban-related research projects (e.g. SBE/ BCC) and city-driven organizations (e.g. cityprotocol.org).

# The Engagement Group: Charter and Membership

- **Focus: engage stakeholders in data sharing**
  - active participation of scientists in RDA
  - increased adoption of data sharing
  - greater representation of various stakeholders
- **Final deliverables / outcomes:**
  - Use cases and/or best practices of data sharing
  - Identified barriers to sharing (from literature and interactions)
  - Participation recruitment strategies
  - Mechanisms to capture feedback from scientific communications
  - Usability assessment of existing data sharing services and tools
  - Recommendations for other WGs
- **Initial membership and leadership:**
  - Andrew Maffei, Inna Kouper, Marcio Faerman, Karl Nilsen, Bhanu Rekapalli, Abhijit Chandra, Amit Chourasia
  - Later or possible participation of Steven Morales, Eugene Kolker, Peter Wittenberg, Francoise Genova

# The Engagement Group: Value Proposition

- **Who will benefit:**
  - Specific scientific communities will benefit from being involved in our data sharing use cases.
  - Other data sharing initiatives will benefit from our participation recruitment strategies and mechanisms of capturing feedback.
  - RDA and its working groups will benefit from having a representation of science perspectives and from our recommendations on engagement techniques.
- **Impact:**
  - Increased adoption of data sharing by one or more specific communities
  - Awareness of RDA activities and emerging data sharing culture
  - Model for adoption of data sharing in RDA and other data and scientific communities
  - Strong relationships among various stakeholders
  - Increased research output and innovation

# The Engagement Group: Action Plan

- Adoption / Implementation of deliverables:
  - Identify specific communities of scientists and potential champions for data sharing to work with
  - Develop and implement engagement strategy
    - Cost / benefit analysis
    - Packages to communicate with university administration and larger audiences
    - Channels and strategies for dissemination of cases, success stories, etc.
  - Create a registry of solutions to overcome barriers against sharing (best practices) and engagement in RDA ongoing activities
  - Build a network of stakeholders for the development of integrative data-sharing prototypes

# The Engagement Group: Work Plan

- Operations / organizational approach:
  - Minimal effort / high impact approach
- Intermediate milestones / deliverables:
  - Barriers for sharing from the literature
  - A use case from one scientific community
  - A usability report on one data sharing service or technology
  - Identify metrics that can be employed to measure engagement of researchers in RDA activities and data sharing
- Broader community engagement:
  - Reach out to and consolidate efforts with engagement initiatives at *DataONE*, *Internet2*, *XSEDE*, *ESFRI*, *DELSA* and others
  - Make the results of our work available for use by various stakeholders (including funding agencies) to harmonize decision-making and sustainability efforts